REMARKS/ARGUMENTS

These remarks are made in response to the Office Action of April 8, 2008 (Office Action). As this response is timely filed within the 3-month shortened statutory period, no fee is believed due. However, the Examiner is expressly authorized to charge any deficiencies to Deposit Account No. 50-0951.

In the Office Action, Claims , 4, 7, 17, 18, and 21 were deemed to be allowable.

Claims 1, 4, 7, 8, 11, 14, 15, 18, and 21 were objected to due to informalities. Claims 2, 5, 6, 9, 12, 13, 16, 19, and 20 were rejected under 35 U.S.C. § 112, second paragraph. Claims 8-14 were rejected under 35 U.S.C. § 101. Claims 1, 2, 8, 9, 15, and 16 were rejected under § 102(b) as being anticipated by U.S. Patent 5,416,845 to Shen (hereinafter Shen).

Claim Objections

As an initial matter, Applicants wish to thank the Examiner for suggesting language to address the claim objections set forth in the Office Action. (Office Action, pp. 2-3.) Applicants have amended claims 1, 4, 7, 8, 11, 14, 15, 18, and 21 to incorporate the suggested language.

Accordingly, Applicants respectfully request that the claim objections be withdrawn.

Claim Rejections – 35 U.S.C. § 112, second paragraph

As amended, independent Claims 1, 8, and 15 recite a cost function that includes the constant parameter, β. Dependent Claims 5, 12, and 19 have been amended to explicitly recite the step of setting the value for the parameter; that is, the parameter for which the value is set as recited in the dependent claims is the parameter referred to in the

amended independent claims. Claims 6, 13, and 20, accordingly, have been cancelled. Claims 2, 9, and 16 also have been cancelled.

Applicants, therefore, request that the rejections under 35 U.S.C. § 112, second paragraph, be withdrawn.

Claim Rejections – 35 U.S.C. § 101

As already noted, Claims 8-14 were rejected as being directed to non-statutory subject matter, it being asserted that the claim "does not set forth any hardware elements to show that the claim is directed only to a hardware embodiment." (Office Action, p. 4.) The preamble of independent Claim 8 has been amended to explicitly recite that the claimed system is a computer-based system. Consistent with the Written Description, Claim 8 has been amended to explicitly recite that such a system comprises hardware elements. (See, e.g., Specification, paragraph [0045], especially, lines 1, 2, and 8-12) As amended, the claims are directed to hardware elements, which one of ordinary skill would understand to comprise logic-based circuitry (e.g., one or more processors comprising registers, one or more arithmetic-logic units, a controller, and other logic-based circuitry that are the elements of a computing system).

Claim Rejections – 35 U.S.C. § 102(b)

As also noted already, independent Claims 1, 8, and 15 were each rejected as being anticipated by Shen. Although Applicants respectfully disagree with the rejections, Applicants nevertheless have amended certain claims and cancelled certain other claims so as to expedite prosecution of the present application. Applicants respectfully submit, however, that neither the amendments nor cancellation of claims are intended as, and should not be interpreted as, the surrender of any subject matter. Accordingly, Applicants respectfully reserve the right to present the original version of any of the

amended claims in any future divisional or continuation applications from the present application.

In particular, Applicants have amended independent Claims 1, 8, and 15 have been amended to further emphasize certain aspects of the invention. The claim amendments, as discussed herein, are fully supported throughout the Specification. No new matter has been introduced by virtue of any of the claim amendments.

Aspects Recited In The Claims

One aspect of the invention, typified by amended Claim 1, is a method of building a model for a physical plant in the presence of noise. The method can include initializing the model of the physical plant, wherein the model is characterized by a parameter vector, and estimating an output using the model. The method further can include computing a composite cost comprising a weighted average of a squared error between the estimated output from the model and an actual output of the physical plant, and a squared derivative of the error. More particularly, according to this embodiment, the error can be computed using a cost function defined as $J(\mathbf{w}) = E(\hat{e}_k^2) + \beta E(\dot{\hat{e}}_k^2)$. (See, e.g., Specification, paragraph [0024]. Additionally, the method can include determining a step-size and a model update direction, and updating the model of the physical plant, wherein the updating step is dependent upon the step size.

Allowable Subject Matter

As amended, independent Claims 1, 8, and 15 explicitly recite a specific cost function that is utilized in computing an error that is used in building a model of a physical plant in the presence of noise. Neither the specific cost function nor a system or method for utilizing such a function for computing error in building the model are disclosed in the prior art. Indeed, as noted in the Office Action these features present allowable subject matter. (Office Action, p. 5)

9

Applicants respectfully submit, therefore, that independent Claims 1, 8, and 15 define over the prior art. Applicants further respectfully submit that, whereas each of the remaining claims depends from Claim 1, 8, or 15 while reciting additional features, each of the dependent claims likewise defines over the prior art.

CONCLUSION

Applicants believe that this application is now in full condition for allowance, which action is respectfully requested. Applicants request that the Examiner call the undersigned if clarification is needed on any matter within this Amendment, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,

Date: July 8, 2008

/Richard A. Hinson/
Gregory A. Nelson, Registration No. 30,577
Richard A. Hinson, Registration No. 47,652
AKERMAN SENTERFITT
Customer No. 40987
Post Office Box 3188
West Palm Beach, FL 33402-3188
Telephone: (561) 653-5000

{WP511537;1}